

## UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549

October 24, 2023

Daniel J. O'Connor President and Chief Executive Officer Ambrx Biopharma, Inc. 10975 North Torrey Pines Road La Jolla, California 92037

Re: Ambrx Biopharma, Inc.
Registration Statement on Form S-3
Filed October 17, 2023
File No. 333-275053

Dear Daniel J. O'Connor:

We have conducted a limited review of your registration statement and have the following comment.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comment applies to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to this letter, we may have additional comments.

Registration Statement on Form S-3, filed October 17, 2023

## General

1. Please provide an analysis supporting your conclusion that the registrant is eligible to use Form S-3 to register this offering. In this regard, we note General Instruction I.A. to Form S-3. If you are not eligible to use Form S-3 for this offering, please withdraw this registration statement and refile on an appropriate form.

Daniel J. O'Connor Ambrx Biopharma, Inc. October 24, 2023 Page 2

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Refer to Rules 460 and 461 regarding requests for acceleration. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Please contact Joshua Gorsky at 202-551-7836 or Laura Crotty at 202-551-7614 with any other questions.

Sincerely,

Division of Corporation Finance Office of Life Sciences

cc: Gregg A. Noel